

IN THE CLAIMS:

The following listing of the claims replaces all previous listings:

1. (Previously presented) A variable tuning antenna comprising:
a radiation element; and
a tuning circuit connected to the radiation element in series, the tuning circuit comprising
a first inductance element and
a parallel circuit which is connected to the first inductance element in series, the parallel circuit comprising
a second inductance element and
a variable capacitance element connected to each other in parallel,
wherein
the tuning circuit is set so that a combined reactance of the radiation element and the first inductance element and a combined reactance of the parallel circuit are canceled by each other, and
the parallel circuit does not resonate in a desired receiving frequency band, and wherein
the tuning circuit is formed so as to be tunable in the desired frequency band by varying the capacitance of the variable capacitance element.

2. (Original) The variable tuning antenna according to claim 1, wherein the variable capacitance element comprises two variable capacitance diodes, the two variable capacitance diodes being connected in series in reverse polarity, and having a terminal of a control voltage connected to a connecting part of the two variable capacitance diodes.

3. (Original) The variable tuning antenna according to claim 1, wherein the radiation element comprises a first antenna element and a second antenna element connected to each other electrically in series,

the first antenna element and the second antenna element being formed in an electric length so as to resonate at a frequency within the desired frequency band by the total length, and

so as to resonate at a first frequency band of a wide band in the desired frequency band with the tuning circuit, and

so as to resonate at a second frequency band by only the first antenna element.

4. (Original) The antenna according to claim 3, wherein the first frequency band is a frequency band of a digital TV.

5. (Previously presented) A portable wireless device comprising:
a transmitting/receiving circuit;

a casing surrounding the transmitting/receiving circuit;
a feeding part located near to the casing and connected to the transmitting/receiving circuit electrically;
a variable tuning antenna comprising a tuning circuit and a radiation element which are connected to the feeding part; and
a third antenna element connected to the feeding part, wherein
the variable tuning antenna comprises any one of the antennae defined in claims 1 to 4, and
the third antenna element comprises an antenna resonating at a third frequency band different from that of the variable tuning antenna,
so that two frequency bands of a first frequency band of a wide band obtained by the variable tuning antenna and the third frequency band can be transmitted and received.

6. (Previously presented) The portable wireless device according to claim 5, wherein the radiation element comprises
a first antenna element and
a second antenna element connected to each other electrically in series,
and
the second antenna element of the radiation element is formed to be extended out of the casing and retracted into the casing; and
wherein

when the second antenna element is extended out of the casing, the second antenna element is connected to the feeding part through the tuning circuit of the variable tuning antenna to resonate at the first frequency band and

when the first antenna element is retracted into the casing, the first antenna element is connected to the feeding part directly.

7. (Previously presented) The portable wireless device according to claim 6, wherein

the first antenna element and the third antenna element are formed in an electrical length so as to resonate at the same frequency band and

the first antenna element and the third antenna element are adjusted so as to strengthen radio waves transmitted and received in phase with each other.